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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/758,085

01/16/2004

Takashi Takahashi

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EXAMINER

FISCHER, JUSTIN R

ART UNIT

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1791

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/758,085	<b>Applicant(s)</b> TAKAHASHI, TAKASHI	
	<b>Examiner</b> Justin R. Fischer	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 5 and 6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5 and 6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 9, 2007 has been entered.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 5 and 6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 5, the amended claim includes the following language: such that deterioration of the optical member due to adhesion distortion is avoided. Applicant points to Page 6, Line 3 – last line of Page 7 for support for said language. However, the original disclosure describes an embodiment in which adhesion distortion was “hardly” observed. Thus, the language of the original disclosure suggests that some

adhesion distortion was observed- as such, the amended claim language in which "adhesion distortion is avoided" constitutes new matter.

As to claim 6, the amended claim includes the following language: prior to filling the fluorine-based organic compound between the plural lenses. It is initially noted that applicant does not point to the original disclosure for support for such language. Additionally, the original disclosure simply states that the respective surfaces of the lens can be roughened by evaporating fluorides 5,6 (Page 5, Lines 4-7)- there is no disclosure as to when such an evaporation occurs.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. '275 in view of Aketagawa et al. '670. The references are applied in the same manner as set forth in the previous communication.

Kobayashi et al. discloses a method for manufacturing an optical member which is a laminated optical member including plural lenses, the method comprising: filling a fluorine-based organic compound between the plural lenses; and sealing the whole periphery of the plural lenses with an organic solvent-soluble amorphous fluorine resin (column 8, line 47, column 9, line 33) having an adhesion so as to seal the organic compound filled between the plural lenses, the fluorine-based organic compound having

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one of applicant's claimed formula's (see table 3). The reference is silent as to a method wherein the plural lenses are comprised of quartz and fluorite. However, assembling a quartz and fluorite lens is well known in the art as disclosed Aketagawa et al.

Aketagawa et al. discloses that it is advantageous to use a quartz and fluorite lens because doing so enables the assembled optical member to be used in different optical systems (column 8, lines 1-18). At the time of the invention it would have been obvious to one of ordinary skill in the art to use fluorite and quartz lens members in Kobayashi et al.'s method as taught by Aketagawa et al. Lastly, given the extreme similarities in construction (lens materials, sealing material, and fluorine-based organic compound), however, one of ordinary skill in the art at the time of the invention would have expected the respective constructions to have the same effects when exposed to the claimed UV energy.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (2002/0034646) in view of Kobayashi et al. '275.

Takahashi et al. discloses a method for manufacturing an optical member which is a laminated optical member including plural lenses to be used in the UV region of 100nm to 200nm, the method comprising: filling a fluorine-based organic compound between the plural lenses, one lens comprising quartz and one lens comprising fluorite; and sealing the whole periphery of the plural lenses with a sealant having an adhesion so as to seal the organic compound filled between the plural lenses, the fluorine-based organic compound having one of applicant's claimed formula's (paragraphs 0011, 0012, 0019, 0023-0034). Takahashi et al. further discloses that the sealant can be an epoxy

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resin. The reference is silent however, as to the use of an organic solvent-soluble amorphous fluorine resin. Kobayashi et al. is directed to a method of sealing two lens as discussed above and the reference further discloses an epoxy and an organic solvent-soluble amorphous fluorine resin are well known alternatives for sealing the periphery of two lens injected with a fluorine containing resin (column 8, lines 45-47). At the time of the invention it would have been obvious to one of ordinary skill in the art to replace the epoxy resin of Takahashi et al. with an organic solvent-soluble amorphous fluorine resin as said resins are well known alternatives as taught by Kobayashi et al. above. Lastly, given the extreme similarities in construction (lens materials, sealing material, and fluorine-based organic compound), however, one of ordinary skill in the art at the time of the invention would have expected the respective constructions to have the same effects when exposed to the claimed UV energy.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. and Aketagawa et al. as applied above, and in further view of either one of (a) Smith (US 4,364,786) and Babuka (US 5,867,236) or (b) Inoue (JP 06118202).

Kobayashi et al. and Aketagawa et al. disclose a method as stated above, but the references are silent as to a method wherein the glass surfaces are treated with fluoride. Smith (Column 5, Lines 49+) and Babuka (Column 6, Lines 15-25) disclose that it is known in the art to provide a fluoride treatment to the surface of a glass substrate in order to clean the surface and provide enhanced adhesion. At the time of the invention it would have been obvious to a person of ordinary skill in the art to provide a fluoride

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treatment to the surface of at least one of the lenses of Kobayashi et al. as taught by Smith and Babuka above.

Alternatively, one of ordinary skill in the art at the time of the invention would have found it obvious to provide a fluoride treatment in view of Inoue. Inoue teaches the inclusion of a magnesium fluoride evaporation to a glass optical element in order to prevent reflection and improve durability.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. and Kobayashi et al. as applied above, and in further view of either one of (a) Smith (US 4,364,786) and Babuka (US 5,867,236) or (b) Inoue (JP 06118202).

Takahashi et al. and Kobayashi et al. disclose a method as stated above, but the references are silent as to a method wherein the glass surfaces are treated with fluoride. Smith (Column 5, Lines 49+) and Babuka (Column 6, Lines 15-25) disclose that it is known in the art to provide a fluoride treatment to the surface of a glass substrate in order to clean the surface and provide enhanced adhesion. At the time of the invention it would have been obvious to a person of ordinary skill in the art to provide a fluoride treatment to the surface of at least one of the lenses of Kobayashi et al. as taught by Smith and Babuka above.

Alternatively, one of ordinary skill in the art at the time of the invention would have found it obvious to provide a fluoride treatment in view of Inoue. Inoue teaches the inclusion of a magnesium fluoride evaporation to a glass optical element in order to prevent reflection and improve durability.

***Response to Arguments***

9. Applicant's arguments with respect to claims 5 and 6 have been considered but are moot in view of the new ground(s) of rejection.

As to claim 5, applicant argues that none of the references disclose a method in which adhesion distortion is avoided when the optical member is irradiated with an excimer laser of deep UV region for 148 hours at a specific laser output. Given the extreme similarities in construction (lens materials, sealing material, and fluorine-based organic compound), however, one of ordinary skill in the art at the time of the invention would have expected the respective constructions to have the same effects when exposed to the claimed UV energy.

Applicant further argues that the Patent Office has not provided a proper reason for replacing the optical device of Kobayashi with a lens assembly of quartz and fluorite as disclosed in Aketagawa. Applicant further contends that Kobayashi discloses an optical device suitable for an anti-vibration optical system while the optical system of Aketagawa is for a semiconductor exposure system. While Kobayashi suggests the an optical device suitable for an anti-vibration optical system, the reference is more broadly directed to optical devices in general. In particular, Kobayashi states that the optical device "may for example be suitable for constituting an anti-vibration optical system" (Column 1, Lines 1-15). Based on this language, one of ordinary skill in the art at the time of the invention would have found it obvious to form the optical device of Kobayashi with a wide variety of arrangements, including the claimed quartz/fluorite arrangement. Aketagawa provides one example of a similar optical device having the



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claimed quartz/fluorite arrangement. It is emphasized that Kobayashi is generally directed to optical devices and the reference in now way places a limitation on the specific glass materials for said optical device.

With respect to Takahashi, applicant contends that there is no suggestion that the Takahashi optical member would need such an anti-vibration optical system (as disclosed by Kobayashi). In this instance, though, the annular films of Kobayashi do in fact provide a sealing effect to the optical device and thus are analogous (to some degree) to the sealing arrangement of Takahashi. Kobayashi identifies a wide variety of materials, including fluorine resin, that are suitable for providing a sealing structure at the periphery of the optical device. It is further noted that (a) Takahashi does suggest the use of an epoxy resin and (b) Kobayashi discloses the alternative use of epoxy resins and fluorine resins for similar sealing structures in optical devices.

As to claim 6, Kato has been withdrawn in light of applicant's amendments. However, a series of newly cited references have been applied to evidence the known use of fluoride treatments to provide enhanced durability or enhanced adhesion to additional substrates.

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R. Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Justin R Fischer  
Primary Examiner  
Art Unit 1791

JRF  
October 22, 2007